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2 I CLAIM:

3 1. An apparatus for use in a drill string comprising:

4 -a core assembly having a first and second transverse bore, and wherein said  
5 core assembly has a first end and a second end;

6 -first piston means, disposed within said first and said second transverse bore of  
7 said core assembly, for closing an internal longitudinal bore of said core assembly;

8 -and wherein said first end of said core assembly is connected to the drill string  
9 and said second end is operatively connected to a drill string pivoting member.  
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11 2. The apparatus of claim 1 wherein said first piston means comprises:

12 -a first piston member disposed within the first transverse bore of said core  
13 assembly;

14 -a second piston member disposed within the second transverse bore of said  
15 core assembly;

16 -means for moving said first and second piston member into said internal  
17 longitudinal bore of said core assembly in order to close said internal longitudinal bore.  
18

19 3. The apparatus of claim 3 wherein said first piston means includes a first sleeve  
20 disposed within said first and second transverse bore.  
21

22 4. The apparatus of claim 1 further comprising:

23 -a third and fourth transverse bore positioned within said core assembly;

24 -second piston means, disposed within said third and said fourth transverse  
25 bore, for closing said internal longitudinal bore of said core assembly.

1           5. The apparatus of claim 4 further comprising:

2                -a first sleeve disposed within said first and second transverse bore, said sleeve  
3 being adapted to hold said first piston means;

4                -a second sleeve disposed within said third and fourth transverse bore, said  
5 second sleeve being adapted to hold said second piston means.  
6

7           6. The apparatus of claim 5 wherein said first piston means comprises:

8                -a first piston member disposed within a first sleeve that is positioned within the  
9 first transverse bore of said core assembly;

10               -a second piston member disposed within said first sleeve that is positioned  
11 within the second transverse bore of said core assembly;

12                -and wherein said second piston means comprises:

13                -a third piston member disposed within a second sleeve that is positioned within  
14 the third transverse bore of said core assembly;

15                -a fourth piston member disposed within said second sleeve that is positioned  
16 within the fourth transverse bore of said core assembly;

17                -and wherein said apparatus further comprises:

18                -means for moving said first, second, third, and fourth piston members into said  
19 internal longitudinal bore of said core assembly in order to close said internal longitudinal bore.  
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21           7. An apparatus for use in a drill string comprising:

22                -an inner core assembly having a first transverse bore formed thereon, and  
23 wherein said inner core assembly has a first end and a second end;

24                -first piston means, disposed within said first transverse bore of said inner core  
25 assembly, for closing an internal longitudinal bore of said inner core assembly;

1                    -and wherein said first end of said inner core assembly is connected to the drill  
2 string and said second end is operatively connected to a drill string pivoting member.

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4                    8. The apparatus of claim 7 wherein said inner core assembly has a second transverse  
5 bore and the apparatus further comprises second piston means, disposed within said second  
6 transverse bore, for closing said longitudinal bore.

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8                    9. The apparatus of claim 8 wherein said first piston means comprises:  
9                    -a first piston member disposed within the first transverse bore of said inner core  
10 assembly.

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12                   10. The apparatus of claim 9 wherein said second piston means comprises:  
13                   -a second piston member disposed within the second transverse bore of said  
14 inner core assembly.

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16                   11. The apparatus of claim 10 further comprising:  
17                   -means for moving said first and second piston member into said internal  
18 longitudinal bore of said inner core assembly in order to close said internal longitudinal bore.

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20                   12. The apparatus of claim 11 wherein said first piston member includes a first sleeve  
21 disposed within said first transverse bore; and wherein said second piston member includes a  
22 second sleeve disposed within said second transverse bore.

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24                   13. A method of sealing off flow in a drill string during wireline operations comprising:  
25                   -providing an apparatus comprising an inner core assembly having a first and

1 second transverse bore; first piston means, disposed within said first and said second  
2 transverse bore, for closing an internal longitudinal bore disposed through said inner core  
3 assembly;

4 -connecting the drill string to a first end of said inner core assembly;  
5 -transmitting the weight of the drill string to said inner core assembly;  
6 -rotating the drill string so that a torque is created;  
7 -transmitting the torque through said inner core assembly;  
8 -terminating the rotation of the drill string;  
9 -closing said first piston means in order to seal off the internal longitudinal bore  
10 of said inner core assembly.

11  
12 14. The method of claim 11 further comprising:

13 -opening said first piston means so that the internal longitudinal bore of said  
14 inner core assembly is unsealed;  
15 -providing a wireline within said internal longitudinal bore of said inner core  
16 assembly, and wherein said wireline has attached thereto a down hole assembly;  
17 -lowering the downhole assembly into the drill string;  
18 -closing said first piston means about the wireline within said internal  
19 longitudinal bore of said inner core assembly.

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21 15. The method of claim 14 further comprising:

22 -performing curative work on the wireline above said first piston means;  
23 -opening said first piston means so that the internal longitudinal bore of said  
24 inner core assembly is unsealed;  
25 -pulling out the drill string with the down hole assembly.

1           16. A seal assembly for use in a drill string, comprising:  
2                 a. a central core assembly, connected between a swivel on its upper end and  
3 the drill string below;  
4                 b. a pair of opposing transverse bores in the central core assembly;  
5                 c. a sleeve disposed within said transverse bores of said central core assembly;  
6                 d. rams positioned in the sleeve for sealing off a passageway in the central  
7 core assembly.

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9           17. The assembly in claim 16, further comprising a pair of seal means, positioned  
10 about said sleeve, for sealing said transverse bores with said rams therein.

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12           18. The assembly in claim 16, further comprising a second set of opposing transverse  
13 bores in the central core assembly, and a second set of rams positioned within a second  
14 sleeve disposed within said second set of transverse bores.

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16           19. The assembly in claim 16, wherein the central core assembly is able to withstand  
17 the weight of the drill string hanging therefrom with minimal stretching or warping.

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19           20. A seal assembly for use in a drill string, comprising:  
20                 a. a central core assembly, connected between a drill string pivoting member  
21 on its upper end and the drill string below, having a central passageway therethrough;  
22                 b. a pair of opposing transverse bores in the central core assembly;  
23                 c. means for aligning the bores of the central core assembly;  
24                 d. rams positioned in the transverse bores in the central core assembly for  
25 sealing off the central passageway in the central core assembly when moved to the sealing

1 position.

2  
3 21. The assembly in claim 21, wherein the rams may be operated either manually,  
4 hydraulically or pneumatically.

5  
6 22. The assembly in claim 22, wherein the aligning means is a sleeve.

7  
8 23. The assembly in claim 22, wherein a wireline is concentrically placed within the  
9 central passageway.

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11 24. The assembly in claim 22, wherein the assembly is able to rotate when the drill  
12 string below the drill string pivoting member is rotated, while the drill string above the drill string  
13 pivoting member remains stationary.

14  
15 25. The assembly in claim 22, wherein the assembly is positioned above a side entry  
16 device but below the drill string pivoting member to conduct wireline retrieval operations.

17  
18 26. The assembly in claim 22, wherein the assembly is positioned below the drill  
19 string pivoting member and wherein a wireline side entry device is positioned above the drill  
20 string pivoting member.

21  
22 27. A method of sealing off flow in a work string above the rig floor, during wireline  
23 operations, comprising the following steps:

24 -providing a central core assembly, having a bore therethrough and positioned  
25 between a drill string pivoting member above it and the work string below it, the central core

1 assembly capable of withstanding the weight of the work string connected to said central core  
2 assembly therefrom;

3 -providing a sleeve which aligns with a pair of bores in the central core  
4 assembly;

5 -providing a pair of rams in the sleeve wherein said rams are capable of moving  
6 from an open position to a closed position in order to seal the bore in the central core  
7 assembly;

8 -connecting a first end of said central core assembly to the drill string pivoting  
9 member;

10 -connecting a second end of said central core assembly to the work string  
11 disposed within a well bore.

12  
13 28. The method of claim 27 further comprising:

- 14 -transmitting the weight of the work string through said central core assembly;  
15 -rotating said work string, and wherein said rotation creates a torque;  
16 -transmitting the torque through said central core assembly.

17  
18 29. The method of claim 28 further comprising:

- 19 -terminating the rotation of the work string;  
20 -providing a wireline through the bore of said central core assembly;  
21 -lowering the wireline into the work string;  
22 -closing said pair of rams about the wireline within said bore of the central core  
23 assembly.

24  
25 30. The method of claim 29 further comprising:

1                    -performing curative work on the wireline above said pair of rams;  
2                    -opening said pair of rams so that the bore of the central core assembly is  
3                    unsealed;  
4                    -raising the wireline out of the work string.

5  
6                    31. An apparatus for use in a tubular string comprising:

7                    -an inner cylindrical core assembly having a first and second transverse bore,  
8                    and wherein said inner cylindrical core assembly has a first end and a second end;  
9                    -first piston means, disposed within said first and said second transverse bore of  
10                    said outer core assembly, for closing an internal longitudinal bore of said inner cylindrical core  
11                    assembly;  
12                    -and wherein said first end of said inner cylindrical core assembly is connected  
13                    to the tubular string.

14  
15                    32. The apparatus of claim 31 wherein said first piston means comprises:

16                    -a first ram member and an opposing second ram member disposed within the  
17                    sleeve;  
18                    -means for moving said first and second ram members into said internal  
19                    longitudinal bore of said inner cylindrical core assembly in order to close said internal  
20                    longitudinal bore.

21  
22                    33. The apparatus of claim 31 further comprising:

23                    -equalizing means, connected to said internal longitudinal bore, for equalizing a  
24                    first pressure above the first piston means with a second pressure below the first piston  
25                    means.



1           34. The apparatus of claim 31 further comprising:

- 2                   -a first sleeve disposed within said first and second transverse bores;
- 3                   -a third and fourth transverse bore positioned within said inner cylindrical core
- 4    assembly;
- 5                   -a second sleeve disposed within said third and fourth transverse bores; and
- 6                   -second piston means, disposed within said second sleeve, for closing said
- 7    internal longitudinal bore of said inner cylindrical core assembly.

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9           35. The apparatus of claim 34 wherein said first piston means comprises:

- 10                  -a first ram member disposed within the first sleeve;
- 11                  -a second ram member disposed within the first sleeve;
- 12                  -and wherein said second piston means comprises:
- 13                  -a third ram member disposed within the second sleeve;
- 14                  -a fourth ram member disposed within the second sleeve;
- 15                  -and wherein the apparatus further comprises:
- 16                  -means for moving said first, second, third, and fourth ram members into said
- 17    internal longitudinal bore of said inner cylindrical core assembly in order to close said internal
- 18    longitudinal bore.

19

20           36. The apparatus of claim 35 wherein said second end of said inner cylindrical core

21    assembly is operatively connected to a drill string pivoting member so that said inner cylindrical

22    core assembly can be rotated with said tubular string.

23

24           37. A method of sealing off flow in a work string comprising:

- 25                  -providing an apparatus having a core assembly having an internal bore, and

1 wherein said core assembly has a first piston member and a second piston member;  
2 -connecting the work string to a first end of said core assembly;  
3 -transmitting the weight of the work string to said core assembly;  
4 -rotating the work string within the well bore so that a torque is created;  
5 -transmitting the torque from the work string to said core assembly;  
6 -terminating the rotation of the work string;  
7 -providing a concentric tubular member within said internal bore of said core  
8 assembly;  
9 -lowering the concentric tubular member into the work string;  
10 -closing said first piston member and said second piston member about the  
11 concentric tubular member within said internal bore of said core assembly.

12  
13 38. The method of claim 37 further comprising:

14 -pumping a fluid into the work string below the apparatus;  
15 -monitoring a pressure within the work string;  
16 -opening said first piston member and said second piston member so that the  
17 internal bore of said inner core assembly is unsealed;  
18 -pulling the concentric tubular member out of the work string.

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20 39. The method of claim 38 wherein the concentric tubular member is a wireline.

21  
22 40. An apparatus for use in a tubular string, comprising:

23 -an inner core assembly, connected between a swivel on its upper end and the  
24 tubular string below;  
25 -a first and second transverse bore in the inner core assembly;

1                -a first sleeve member disposed within said first transverse bore and a second  
2 sleeve member disposed within said second transverse bore;

3                -a first piston positioned within said first sleeve and a second piston positioned  
4 within said second sleeve for sealing off a longitudinal passageway in the inner core assembly;

5                -equalizing means, connected to said inner cylindrical core assembly, for  
6 equalizing a first pressure above the first piston with a second pressure below the first piston.

7  
8                41. The apparatus in claim 42 further comprising means for moving said first and  
9 second piston from an open position to a closed position.

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11                42. The apparatus of claim 41 further comprising:

12                -a sub member attached to an upper end of the swivel, said sub member having  
13 an inner bore therein aligned with the longitudinal passageway of the inner core assembly,  
14 said inner bore of said sub member having a shoulder;

15                -a trap door assembly comprising: a housing mounted within said inner bore of  
16 said sub member; and a trap door pivotly mounted to said housing, said trap door having an  
17 open position and a closed position.

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19                43. The apparatus of claim 42 wherein said trap door assembly further comprises:

20                -a kick gate assembly operatively associated with said sleeve, said kick gate  
21 assembly capable of moving said trap door from a closed position to an open position.

22  
23                44. A method of sealing off flow in a tubular string during coiled tubing operations  
24 comprising:

25                -providing an apparatus having: an inner core assembly with a first and second

transverse bore, an internal bore formed through said inner core assembly; and, piston means, disposed within said inner core assembly, for closing the internal bore of said inner core assembly;

- connecting the tubular string to a first end of said inner core assembly;

- connecting a drill string pivoting member to a second end of said inner core assembly;

- transmitting the weight of the tubular string to said inner core assembly;

- lowering a coiled tubing into the tubular string and through the internal bore of said inner core assembly, the coiled tubing disposed within said tubular string creating an annular space;

- rotating the tubular string so that a torque is created;

- transmitting the torque through said inner core assembly;

- terminating the rotation of the tubular string;

- closing said piston means about the coiled tubing in order to seal off the annular space;

- pumping a fluid through a side entry sub located below the apparatus, the fluid being pumped into the annular space.

45. The method of claim 56 further comprising:

- opening said piston means so that the annular space is unsealed;

- running into the well bore with the coiled tubing to a desired depth;

- closing said piston means about the coiled tubing thereby closing the annular space.

46. The method of claim 57 further comprising:

- 1                    -opening said piston means so that the annular space is opened;
- 2                    -pulling on the tubular string;
- 3                    -transmitting the weight of the tubular string through said inner core assembly;
- 4                    -rotating the tubular string so that the torque is created;
- 5                    -transmitting the torque to the inner core assembly;
- 6                    -terminating the rotation of the tubular string;
- 7                    -pulling the coiled tubing out of the tubular string.